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"Scire est nescire, nisi id me
Scire alius sciret."

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*THE WORK OF A DEPARTMENT OF INDUSTRIAL HEALTH

BY

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The first step towards the foundation of a Department of Industrial Health was made in 1944 by an inquiry from the Nuffield Foundation to the King's College division of the University of Durham, asking what future plans for forming such a department existed, and whether the university would accept financial help to bring these to fruition. Work started in June, 1946, when the department consisted of a room containing a few packing-cases. Now, it is clearly important that heavily industrialized areas should have first priority for the foundation of such departments, but the work they ultimately have to do depends very largely upon the "macroscopic" industrial geography of the surrounding area, and the ease with which they

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can do it relates closely to the "microscopic" academic geography, because frequent consultation with other scientific departments is of great importance. Figure 1 shows the salient points of the industrial geography of the north-east coast, and marks clearly the importance of coal-mining and shipbuilding and, by implication, all the industries that go with them. For example, ships need painting, so there are paint works; boilers need lagging with a heat-resisting material, so there are factories making asbestos lagging, and so on.

DEPARTMENTAL POLICY

The policy of the department is bound up to a considerable extent with its definition of "industrial health", which is defined shortly as the reciprocal relation between health, home, and job. It is better to use an over-simplified definition which can act as the centre around which the rest of the work crystallizes, than an elaborate generalization to cover almost everything. It is the policy to take a synoptic or holistic view of the work, combining on the one hand clinical with social medicine, and on the other the laboratory approach, and to select either the experimental or the observational method, depending upon the nature of the problem. The terms of reference under which the department was founded suggest that it should give priority in its efforts to work upon specific problems. This is usually called "research", but, as is pointed out in the Rector's (1949) recent report, this is rather a pretentious word, if only because real research usually consists of about 2 per cent. inspiration and 98 per cent. perspiration. The policy is to concentrate on the local problems in industries which have the greatest environmental difficulties, and which employ the greatest numbers. Next come teaching and a certain amount of routine medical work. Both compensation and medico-legal work are avoided, because it is most important for a university department to maintain an independent outlook, and it cannot do this by taking sides in such disputes. An attempt is made therefore to maintain a fair and independent attitude between employer and employed, and, as an example of this practice, it will be seen later how some pieces of work are organized through the help of the employers and others through the help of the trades unions.

The industry which employs the greatest numbers and which has the greatest environmental difficulties in the area is coal-mining, and here work is being done upon some facets of the problem of coal-miners' nystagmus. We are attempting to answer the question, " how do men with this disease differ from normal miners?", by studying their social and occupational histories, and by relating these to comparable histories of normal men. An attempt is also being made to answer the questions, " can oscillations of the eyes be produced in animals by exposing them to prolonged darkness? ; and if so, can they be cured by exposure to light, and how much light, and for how long? " This problem of nystagmus is being studied in collaboration with the Departments of Psychological Medicine and of Physiology, and with the Sunderland Eye Infirmary. So far only a partial retrospective study of old cases of nystagmus has been made. The suggestion from this is that, taking them by and large, patients with this disease are very little different from ordinary men; that the prognosis for return to underground work and for remaining at it after five years is poor (only 4 per cent. of them manage this); and that the other 96 per cent. need rapid resettlement to standing-up work in good light. The second coal-mining problem which is being studied is coal-miners' pneumoconiosis, and here of course it is most important to relate our work to that of the Medical Research Council's unit in South Wales, which is putting so much effort into investigating this disease. The prevalence of the disease in the North-East is unknown. It has been said that County Durham was particularly free from it; but in the last three years this department has seen nearly 300 clinical cases of the condition, and it is now important to carry out surveys to get an idea of its real prevalence in some of the collieries. The social consequences of the disease in this area of England are being investigated, and how they relate to the social consequences of bronchitis and emphysema which are equally common in coal-miners. Finally, an attempt is being made to work out the principles on which patients with pneumoconiosis should be advised. It is one thing to see this problem in an atmosphere of what might be called " pure research ", but it is quite another to have patients before one in an out-patients' clinic, asking for

advice which must be related not only to the natural history of the disease, but to its social and occupational consequences as well.

Another very important industry in this area is that of shipbuilding, whether viewed from the clinical or the social angle. Statistical surveys are therefore being made in two shipyards on the Tyne, in which branch offices staffed by members of the department are established. In other words, they are in the environment which they are studying, and are attempting to relate, statistically, the incidence of accidents and absences to job. The outstanding thing that strikes a visitor to a shipyard on going into the sick quarters and looking at the sick book, is the very high incidence of trauma—actual damage to the body—in relation to the number of workpeople. Nearly all shipbuilding is done out of doors, and a large part of the work has a big manual element in it.

Now to turn to a laboratory problem of the back-room type. There is in industry a certain relation between a man and the machine which he is controlling, and this relation may break down in a number of different ways. He may have an accident, the output may fall off, or the amount of spoilt work which he turns out may go up, and so on. There is a number of situations in which men are controlling machines in response to the display of some sort of information, which tells the controller what the machine is doing. An example of this is the ship's engineer, who controls his engine in response to the engine-room gauges. The winding engine-man in a colliery is another example, and another, the air pilot who is flying in cloud or at night, and who cannot see the horizon. These three machine controllers have to be told what is happening by some type of indicator, and the problem in which we are interested is: how should such indicators be designed so as to produce the greatest speed and accuracy of response on the part of the machine controller? A small piece of this larger problem is being worked upon, and it is this : given a numerical indicator, should it be arranged as a vertical or horizontal strip, or as a circular dial? In order to study this kind of question, it is necessary to make an apparatus which produces movements of a pointer over the dial, in response to which the human subject of the experiment has to move a control knob or handle; that type of display which produces the

PLATE VI

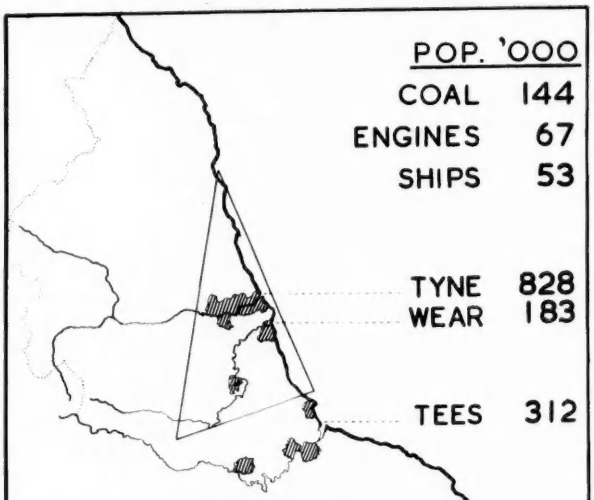

FIGURE 1.

Diagram of the industrial geography of the North-East Coast. The main towns are hatched and the coal mining area is within the the triangle. The population in thousands for the three most important industries and in the three main river valleys is shown.

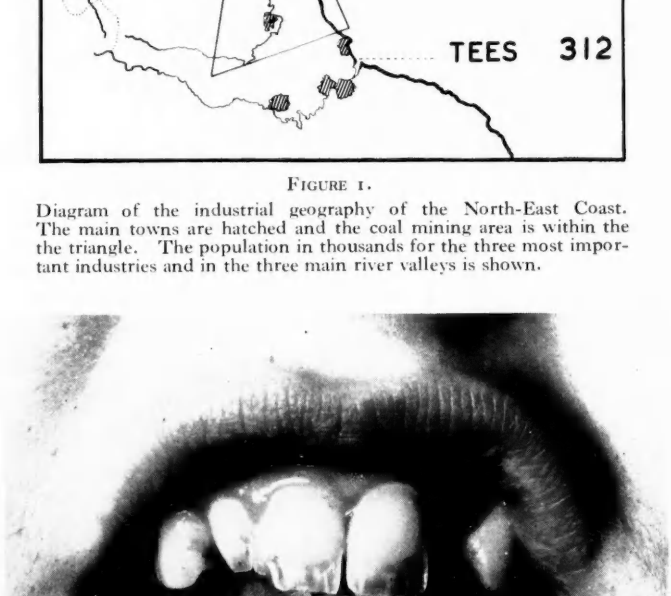

FIGURE 2.

Industrial erosion of the teeth.

greatest speed and accuracy of response is the best. The apparatus for this kind of work consists essentially of three parts, a machine for producing an unpredictable movement of the pointer, a control and display panel, and an ink writer for graphing what the pointer does and how the subject responds to it.

A further problem of a more narrowly industrial type which is being studied is the erosion of human teeth by certain dusts (Figure 2). This work started through the clinical observation that girls working in a certain room in a local factory showed a peculiar erosion of the enamel, and at a later stage, the dentine of their teeth. A visit to the factory made it obvious that there was a continuous dust-cloud in this workroom, which was not present in other workrooms in the factory; and a survey showed that this peculiar dental disease was confined, in fact, to this room. A dust-sampling survey was carried out in all parts of the room, and a quantitative and qualitative analysis of the dust was made. The observed clinical disease can now be linked with what is in the dust. And it now remains to complete the logical circle by producing the disease *in vitro*, which will also help to answer the question, " what is the greatest concentration of the chemical in the air which can be allowed before erosion takes place? " This piece of work illustrates the complete cycle of steps in research in industrial medicine. First, clinical observation; secondly, the correlation with the observed environment; thirdly, putting the teeth artificially in the observed environment and seeing if the same thing happens; and fourthly, the production of a time-concentration curve for the action of the noxious body upon the teeth.

TEACHING

In teaching the departmental policy is to give priority to the undergraduate medical student, because it is felt that every doctor should understand something about the reciprocal relation between health, home and job, and that this is by no means merely a postgraduate subject. Four methods are used in teaching: the tutorial, the field visit, the out-patient department and the lecture, in roughly that order of effectiveness. Undergraduate tutorials are given twice a week throughout the year to those students who are doing their senior medical clerkships, in a side room of one of the wards of the department of medicine,

and the teaching is firmly based upon a clinical platform. The students are taught to take three types of history from the patient, the clinical history, the occupational history and the social history; to make three diagnoses, clinical, occupational and social; and then to plan the management (a wider conception than " treatment ") of the patient by fitting together the information from these three sources. Only small numbers—six or eight students—are taught at a time, and they are always taught on a real clinical problem for which the department of industrial health has clinical responsibility, and a social worker is always present to present the social side of the problem. This type of teaching, although integrative and concentrated, is limited by the fact that the problems being discussed have been, to a certain extent, prepared beforehand by the teacher, or at any rate considered by him. Clinical students are therefore taught in the out-patient clinic of the department, where they see their seniors practising what they preach in the wards. Here the clinical and occupational histories are taken by the physician, the clinical examination is then made, and the social history is then taken by the social worker, who comes in and presents it before the students, so that they see the whole problem. The patient returns next week after the necessary investigations have been made, and the students see how the advice given is based upon all the information previously obtained. A course of lectures is given to the final-year students on the relationship of the environment to health, which attempts to bring together the various loose ends of the subject; and a share is taken in teaching the postgraduates taking their diploma in public health, which, in the University of Durham, contains an element of industrial health, the department of which also offers a course in statistics to these postgraduates. There is one other type of teaching which is given, and that is to the third-year engineering students, upon the relationship of engineering to health, because many of these students will be designing machinery, which either has to be controlled by human beings or which affects them in one way or another, and in later life they will become factory administrators with, in fact, more control over the health of their workpeople than the doctor, who only tends to be called in when things go wrong.

As well as the specific problems and the teaching, there is an element of what might be called routine work, which acts as a "cement", sticking the activities of the department together. Twice a week in-patient rounds are done together with the house physician and the social assistant. It is often objected that an almoner has no place at the bedside, but when a decision has to be made about the management of a particular patient, including of course the social and occupational management, this decision can only be made well when all the information, clinical, social and occupational, can be delivered at one place and at one time, at what is really a small case-conference. This is not, of course, done over the patient's bed or even within earshot of the patient, but it is done on the spot, so that all the people interested in the patient's welfare know what the others are thinking. Two out-patient clinics are conducted, and for these a new type of note-keeping system has been developed, which gives more prominence to the social and occupational facets of the patient than do the notes usually used (Figures 3 and 4). A large proportion of the work of these two clinics is follow-up work, because in them are seen cases of coal-miners' pneumoconiosis, and these men need to have their chests X-rayed at least annually, together with an assessment of their clinical and occupational state.

STAFF

The staff needed to carry this load of work consists of a first assistant, who is a clinician with a special interest in chest disease, matching the main clinical problem of the department; a social assistant, who is an almoner; a statistician (with two statistical clerks) whose primary objective is the statistical survey of shipyard workers, but who also gives statistical advice to anyone in the medical faculty who needs it; a physiologist, who is carrying out research on indicator display with the assistance of a Medical Research Council grant; a chemist, working on the tooth-erosion problem, who is assisted by a Luccock Research Fellowship; a social surveyor, in charge of the social survey of a shipyard town; and a secretarial staff of two, one of whom primarily deals with the clinical secretarial work, and the other with the social secretarial work together with the organization of the out-patient clinic.

HISTORY (OCCUPATIONAL)

Name and nature of present job:

Past employment or unemployment

Age	Job	Age	Job

FIGURE 3.
The Occupational History Sheet.

PRESENT SOCIAL BACKGROUND

Taken by.....

Date of ceasing work	Normal weekly wage	Weekly loss during illness	Final wage if altered

Household	Occupation	Earnings	Absent members of family

Expenses:	Present Income:

Housing:	Other Details:

COMMENTS:

FIGURE 4.

The Social History Sheet.

Summary.—The Nuffield Department of Industrial Health started work in 1946. The problems upon which it is working depend upon the industrial geography of the north-east coast. Its policy is to put its primary effort into research work upon specific local problems. The definition of industrial health round which its clinical work and teaching are woven, is that " industrial health " can be regarded as the reciprocal relation between health, home, and job, and the integration of the social and clinical work is designed to give effect to this definition.

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THE GENERAL USE OF HISTAMINE ANTAGONISTS

With special reference to Therapy in Dermatological Disorders

BY

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The list of histamine antagonist drugs grows, and a certain amount of confusion and debate exists as to which drug is the most satisfactory and which disorders can be improved by their administration. Recently the equipotent doses of the commonly available preparations have been determined (Bain, Broadbent and Warin, 1949, and Bain, 1949). In this work weals have been induced in the skin of man by intradermal injections of histamine. The size of the weal is less if the injection is made at a suitable interval after one of the drugs has been taken by mouth. By using a series of subjects and carefully measuring the areas of weals provoked before and after giving different doses of the various agents it has been possible to make an accurate comparison of the effectiveness, weight for weight, of the drugs as histamine antagonists in the skin of man.

Table I gives the names of the agents which are at present available on the market in this country and the doses that will give the same degree of antihistaminic effect. These equipotent values refer to the administration of single doses only. It is interesting that the drugs in this series, although having the same clinical action and often the same side effects, have for the most part quite different chemical structures.

Apart from the degree of effect from single doses the agents vary considerably in their length of action (Bain, Hellier and Warin). The lengths of action on the skin of man following ingestion have been determined in a similar manner to that used in measuring the weight-for-weight potency. For the purpose of comparison it is convenient to take the period from

ingestion to the time when only 50 per cent. of the antihistaminic effect remains. Not enough work has yet been carried out to give the exact times for each drug, but the following figures can be considered as a practical guide (Bain, 1949): Benadryl, 8 to 12 hours; Antistin, $4\frac{1}{2}$ to $6\frac{1}{2}$ hours; Anthisan, 5 to 7 hours; Pyribenzamine, 4 to 6 hours; Phenergan, 24 to 36 hours. Histantin appears to have a slightly shorter action than Phenergan.

TABLE I

THE HISTAMINE ANTAGONIST DRUGS AVAILABLE ON THE MARKET IN THIS COUNTRY

Name of drug	Manufacturer	Comments	Equivalent doses (mg.)
Benadryl ..	Parke Davis ..	—	200
Antistin ..	Ciba	—	350
Histostab ..	Boots	Essentially the same substance as Antistin.	350
Anthisan ..	May & Baker	Introduced in France as Neo-Antergan.	150
Pyribenzamine	Ciba	There is only a slight difference chemically between this substance and Anthisan.	160
Phenergan ..	May & Baker	—	25
Histantin ..	Burroughs Wellcome.	—	50–100
Di Paralene ..	Abbott ..	Essentially the same substance as Histantin.	50–100
Thephorin ..	Roche ..	—	Not known

Some other drugs are in use abroad, notably in America. These seem to have no important advantages over the range available in this country and include Histadyl (Eli Lilly), Chlorothen (Lederle), Anthallan (Medico Chemical Corps) and Trimeton (Schering Corp.). A complete list of antihistamine preparation has recently been prepared (*Pharmaceutical Journal*, February 18th, 1950, p. 139).

It is of course obvious that when using a drug with such a long action as Phenergan repeated doses will build up a total effect much greater than the total effect from repeated doses of a shorter acting agent. It is therefore apparent that the

relative potencies for single doses as given in Table I do not give an accurate comparison of the drugs when repeated doses are given. For example, compare Anthisan and Phenergan. When single doses were employed, 150 mg. of Anthisan were found to be equipotent with 25 mg. of Phenergan. But Phenergan has 3 to 4 times the duration of action of Anthisan, so when the drugs were compared in a clinical study, in which they were given daily for at least a week, it was found that 350 mg. of Anthisan per day was equipotent with 25 mg. of Phenergan (Bain, Broadbent and Warin, 1949).

As has been mentioned Phenergan has been shown to have lost only half of its effect approximately twenty-four hours after ingestion. This property has enabled the drug to be used in a single dose during a twenty-four-hour period, and if this dose is given at night any attendant drowsiness will be most marked throughout the hours in which the patient would normally sleep.

An important limiting factor in any drug of this series is the tendency to give rise to side effects. The main side effect with all the drugs so far studied is the sensation of drowsiness, lassitude or dullness. Dryness of the mouth is common, but is usually not a significant inconvenience. Nausea, vomiting and sometimes diarrhoea may be provoked by Anthisan or Pyribenzamine, but are less frequent if the drugs are not given on an empty stomach. Phenergan may give rise to a curious aching and weakness of the legs. Other symptoms from therapeutic doses of these drugs have been reported but occur infrequently. These include restlessness, dizziness, anorexia, headache, blurred vision and dysuria. Patients vary considerably in their reaction to the side effects of drowsiness and lassitude. One person may not be able to tolerate 300 mg. of Anthisan per day, whereas another may be able to take 1200 mg. of Anthisan per day without undue toxic symptoms. Sensitive intelligent patients who are ambulatory are more likely to be affected than the more phlegmatic, particularly if they are lying in bed. If increasing doses of any of the drugs are given then eventually all patients complain of these side effects. It has been noticed that many patients develop a tolerance to such side effects as drowsiness and lassitude, often

after a few days. In this connection it is important to realize that tolerance to the specific antihistaminic effects apparently does not occur even after many months' continuous therapy (Warin, 1948).

The tendency for the different drugs to cause side effects varies considerably, and this variation is important in comparing their value for clinical use. It is obvious that a comparison of the incidence of side effects must be made with equipotent doses of the drugs. However, a number of misleading comparisons have been reported in which the doses employed have obviously had very different antihistaminic effects.

When equipotent doses are employed the incidence of side effects is greatest with Benadryl. Antistin shows a lower incidence than Benadryl, but greater than Anthisan and Phenergan when the latter is used in a single nightly dose.

It seems most likely that the new drug Histantin (Burroughs Wellcome & Co.) may in its turn have the lowest incidence of side effects. From a preliminary assessment of a clinical comparison, being undertaken at the Bristol Royal Hospital, Histantin appears to be superior to both Anthisan and Phenergan.

Two further points in the practical use of these drugs must be mentioned. Individual patients vary considerably in the degree of histamine antagonism given by the same dose of one of the drugs and also in length of time that the effect of the drug will remain (Bain, Hellier and Warin, 1948). Thus the same degree of histamine antagonism given in one patient by, for example, 300 mg. of Anthisan per day may not be given in another until a dose of perhaps 1200 mg. is reached. If a patient shows a small antihistaminic effect with one drug of the series a small effect will generally be given by the other drugs. In the practical administration of the drugs this variation in response is usually allowed for by giving the patient an average dose, and if the symptoms are not controlled the dose is raised until either the desired effect is brought about or side effects become too great.

In addition to this variation in individual response to the drugs the strength of stimuli evoking the treated disorder will

vary from patient to patient and will fluctuate in the same patient. An example of this is given by a patient with chronic urticaria suppressed by 300 mg. of Anthisan per day who developed an outbreak of weals in spite of continuing to take the same dose of the drug. This attack was found to have coincided with a considerable emotional upset. The fresh outbreak of urticaria was suppressed by raising the dose of Anthisan to 600 mg. per day for two weeks, after which period it was found that the eruption could once more be suppressed by 300 mg. per day (Warin, 1949).

The series of antihistaminic drugs has now been in general use for two to three years. Very large quantities have been administered in all sorts of disorders. The indications for use are still to be defined and very little carefully controlled work has been carried out. Many difficulties are experienced in deciding whether a condition is affected by the drugs. In this connection it seems probable that in a number of disorders reported improvement by histamine antagonist therapy may have been entirely due to the sedative side action of the drugs.

With regard to disorders involving the skin the only conditions irrefutably improved by the histamine antagonists are those with urticarial weal formation. These include acute urticaria from various causes, chronic urticaria, dermographism, giant urticaria (angio-neurotic oedema) and papular urticaria. Probably if a large enough dose of the drugs can be given a response can be obtained in all cases. For example, in a series of forty cases of chronic urticaria, all were found to respond, although in one or two it was found necessary to give a dose which caused too great a degree of drowsiness to warrant prolonged therapy (Warin, 1949). In some cases of acute urticaria the causative stimuli provoke such a severe response that very large doses of the drugs are required. Comparatively large doses may also be required to control attacks of papular urticaria, probably because children as a rule are relatively resistant to the drugs, and the degree of antihistaminic effect from average doses may not be sufficient to control the eruption. With those disorders characterized by recurrent short attacks, such as giant and papular urticaria, there is some evidence that the attacks can be lessened if the drugs are given as soon

as possible after the attack commences. This will, of course, greatly help in the practical therapy of these conditions, as otherwise administration of the drugs for very prolonged periods will be necessary in order to control attacks that might only occur every few weeks or months. With chronic urticaria the drugs essentially suppress the weals, which usually return after stopping the tablets when the concentration of the drug drops below a certain level. Therapy may have to be continued for prolonged periods, and some patients have taken the drugs continuously for a year or even two years. The hope in treatment is that during the time the weals are suppressed the tendency to urticaria will be reduced by other therapeutic measures or will die out spontaneously. In a series of thirty cases that had been followed up, the tendency to urticaria died out whilst on suppressive therapy in eleven and was considerably lessened in six; in thirteen the tendency to urticaria was unchanged and suppressive therapy continued (Warin, 1949). As would be expected, the tendency is more likely to persist in those patients who have had the urticaria for a long time prior to therapy.

In the eczema-dermatitis disorders the value of the antihistamine agents is debated, and there is at present no controlled work recorded, which will provide a clear decision as to the effect of the drugs on these conditions. It is suggested that improvement due to the specific effects of the drugs only occurs when it is apparent that the eruption is associated with dermal oedema, as is often seen in dermatitis due to contact with irritants to which the skin has developed an allergic sensitivity.

The assessment of the value of the drugs in pruritus from various causes has been difficult. Initially the reports suggested a specific anti-pruritic effect. The itching of scabies, jaundice, eczema, and many other conditions was said to be relieved. More recent reports seem less convincing, and in a controlled investigation which is being carried out in the Bristol Royal Hospital it seems that any anti-pruritic effect is probably due to the sedative side effects of the drugs.

It appears that the histamine antagonists have no specific effect on rosacea, dermatitis herpetiformis, lupus erythematosus, lichen planus or pemphigus. The position with regard to

erythema multiforme and actinic prurigo is not quite clear, although any effect is probably slight. A few cases of post-herpetiform neuralgia are reported to have been relieved, but the results are inconstant. Some cases of periarteritis nodosa are reported to have been improved, but again the results seem to vary considerably.

Summary

1. The histamine antagonists at present available in this country are compared.

2. Phenergan when given in a single nightly dose every twenty-four hours, Anthisan and Histantin all seem to give a low incidence of side effects in average clinical doses. Histantin may prove to be the most useful drug in this respect.

3. Employing single doses, Phenergan 25 mg. is equipotent with Anthisan 150 mg. and Histantin 50 to 100 mg. Because of the variation in length of action of the drugs, after repeated doses have been used for a few days, a daily dose of Phenergan 25 mg. is equipotent with Anthisan 350 mg. and Histantin 100 mg.

4. Individual patients vary considerably in the degree of histamine antagonism given by the same dose of one of the drugs and also in the length of time that the effect of the drug will remain.

5. Fluctuation in the stimuli provoking a disorder such as urticaria may necessitate an alteration in dosage of the drugs to maintain the same response.

6. Amongst dermatological disorders only those with urticarial weal formation are irrefutably improved. In the eczema-dermatitis group it seems likely that a definite effect occurs only when dermal oedema is apparent, as is commonly seen in sensitization dermatitis. It is suggested that there is no specific anti-pruritic action.

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IMPRESSIONS OF AMERICAN RHEUMATOLOGY AND RECENT ADVANCES IN "RHEUMOCRINOLOGY"*

BY

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Apart from the recent discoveries in connection with the endocrine glands and rheumatic disease, the most striking feature at the International Congress held in New York in June 1949 was the truly American burst of enthusiasm for research into, and treatment of this most neglected group of diseases. In some places endowment of research into rheumatism is so great that the main problem is to know how the annual income can be spent—the complete reverse of the situation in this country! Attendance at meetings, even after lunch in a real heat wave, was almost one hundred per cent., though proceedings of one kind or another usually started at 7.30 a.m. and finished after midnight.

In some section or other of the Congress nearly all aspects of rheumatic disease were discussed. The morbid histology of the muscles in rheumatoid arthritis was considered to be nonspecific and probably biochemical in origin, but occurred seldom except in rheumatoid muscles. The Americans still disagree with the British over the question of whether ankylosing spondylitis is or is not rheumatoid arthritis of the spine. The selection of the cases and pre- and post-operative treatment of cup arthroplasty of the hip appeared to be even more important than the technique of the operation. Excision of the heads of the metatarsals is proving useful in rheumatoid deformity of the feet. The importance of heredity in rheumatoid arthritis and spondylitis was stressed and also the way the hereditary hyperuricaemia of gouty families was controlled by the gonads. The effect of the thyroid, pituitary and gonads on the ageing of

* Introduction to a discussion at the Bath Clinical Society, November, 1949.

bone in osteoarthritis was also agreed. It was, however, on the role of the adrenal cortex and pituitary that interest mainly centred; and we had an opportunity of seeing a number of cases treated both with cortisone and A.C.T.H.—yet during the whole of the meeting I did not hear Selye's name mentioned once.

Rheumatism as a Disease of Adaptation

For many years we have been exercised by the problem of why such divergent factors as heredity, shock, worry, infection, fatigue, exposure and allergy have all appeared to produce the same end-picture. Now an explanation appears to be forthcoming. In 1936 Selye described the "Alarm Reaction and General Adaptation Syndrome". He found that in animals a large number of noxious stimuli—extreme heat or cold, extreme fatigue, crushing of muscle, poisoning with such drugs as colchicine—all produced the same result:

1. A stage of shock.
2. Recovery and increased resistance to the stimulus; and
3. If the stimulus was continued, death in exhaustion.

There were atrophy of the thymus, lymphoid tissues and spleen, depletion of the adrenal cortical lipoid, renal changes and ulceration of the bowel. The change was identical, whatever the noxious stimulus.

Hench drew attention to the reversibility of the rheumatoid process, especially in pregnancy and jaundice, and encouraged the biochemists to renew their efforts at isolation and synthesis of the adrenal steroids. In 1942 Kendal isolated 17–hydroxy–11–dehydrocorticosterone, later named cortisone, and in 1946 succeeded in its partial synthesis. In 1948, Hench, Slocumb and Polley investigated its therapeutic potentialities.

In 1946 Selye produced arthritis in rats by removing both adrenal glands and one kidney, and then keeping them alive on D.O.C.A. (desoxycorticosterone) and salt. He followed this up in 1949 by the production of arthritis in rats with formaldehyde injection in the region of the joints and aggravating this with D.O.C.A. or controlling it with cortisone or A.C.T.H.

When A.C.T.H., one of the hormones produced by stimulation of the anterior part of the pituitary gland, reacts on the

adrenal cortex, three groups of steroid hormones are produced:

1. "Sex" hormones—androgens, oestrogens and progesterone-like substances.

2. D.O.C.A.-like substances, sometimes called the electrolytic or mineralo-corticoids, which are used in the treatment of Addison's disease and are mainly concerned with electrolytic water balance; and

3. The 11–oxysteroids, sometimes described as the carbohydrate– or glyco-corticoids, which affect the deposition of glycogen in the liver and the production of carbohydrates from protein. It is to this group that compound E or cortisone—17–hydroxy–11–dehydrocorticosterone—belongs.

Group 2 tends to have an adverse effect and group 3 a beneficial effect on rheumatic disease. The effect of the latter is measured most easily in the laboratory by the depression of the eosinophil level in the circulating blood and an increase in the uric acid in the urine, usually expressed as an increase in the uric acid/creatinine ratio.

Cortisone, given by injection in a dose of 100 to 200 mg. daily, produces a dramatic temporary remission in rheumatoid arthritis, ankylosing spondylitis and rheumatic fever. It is also effective in generalized lupus erythematosis, scleroderma, erythema nodosum; and in asthma, ulcerative colitis, mental disease, and possibly nephrosclerosis and hyperpiesis. In rheumatoid disease, within twenty-four hours there is diminution of spasm, pain and swelling and increase in range of movement of the affected joints. There is a sense of euphoria and increase in appetite and weight. In about a week there is usually a 90 per cent. recovery of all except incapacity due to structural changes in bone or firm fibrous changes in the capsules. The sedimentation rate and blood count improve greatly: an increase of as many as one million red cells has been observed in this period. Within two days of cessation of treatment a relapse is, however, to be expected, and by the end of a week about 80 per cent. of the gain is often again lost.

A.C.T.H. has a therapeutic effect almost identical with that of cortisone in rheumatic disease. It stimulates the adrenal cortex, except in the rare cases when the latter is diseased, to

pour into the circulation more of the cortisone-type than of D.O.C.A.-like steroids. It is, however, still more quickly absorbed and destroyed, and is usually given by intra-muscular injections in doses of about 30 mg. three times a day.

Danger, Difficulties and Significance. At first cortisone and A.C.T.H. appear a panacea for many of man's ills, but there are many difficulties. With regard to production, cortisone is only synthesized in minute quantities by a very laborious process from large quantities of ox bile. A.C.T.H. is with equally great difficulty and expense obtained from animals' pituitary. The possibility of synthesis of A.C.T.H. has, however, become a little nearer since the recent work of Li and Morris (1950). The production of anti-hormones, especially with A.C.T.H., are a very real difficulty. And, in addition, with both A.C.T.H. and cortisone, there is a risk of adrenal failure if their administration is long continued and then suddenly stopped.

Toxic effects during cortisone administration are infrequent; inhibition of scar tissue formation and breaking down of wounds has been reported. With A.C.T.H. in particular, acne, hirsuties and amenorrhoea are to be looked for, but they usually right themselves rapidly on cessation of treatment. Contamination with pitressin may produce rise in blood pressure, faintness and vomiting.

From the above remarks it must be agreed that neither cortisone nor A.C.T.H. should at present be looked upon as a treatment. Their discovery does, however, open up an enormous field for research and helps to explain much that was previously not understood about the possible causation of the rheumatic diseases. Professor Williams has put forward a very reasonable conception : of a group of diseases of adaptation, where there is a constitutional weakness somewhere in the chemistry of the body, probably in one of the fundamental enzyme systems, so that when subjected to stress, there is a breakdown at this level. When excess of substrate is available, the chemical reaction can continue, and the supply of abnormal amounts of substrate or the prevention of its destruction may be the therapeutic answer. The need for the use of cortisone in a dose ten times that calculated for the requirements of the

body and the clinical remission of rheumatoid arthritis with jaundice by reduction of steroid destruction by the liver are both explicable by this fascinating theory. It also explains how heredity and such factors as shock, fatigue, allergy and infection can all play their part in production of the rheumatic state.

Ascorbic Acid and D.O.C.A. In 1949 Lewin and Wassen stated that they had produced dramatic remissions in rheumatoid arthritis by the simultaneous injection of 5 mg. D.O.C.A. intramuscularly and 0.5 to 1.0 gr. ascorbic acid intravenously. Brownless in part confirmed this work in animals. He found that formalin-produced arthritis was worsened by D.O.C.A., but improved by D.O.C.A. and ascorbic acid even after removal of the adrenals. He also found some improvement with ascorbic acid alone, provided that the adrenals were intact. Le Vey and Loxton claimed good results with D.O.C.A. and ascorbic acid, even when the ascorbic acid was given intramuscularly in the same dosage (0.5 to 1.0 gr.). They also were able to localize the improvement to one limb by giving the injections into that limb and restricting the venous outflow with a cuff, and therefore suggest that any effect of the injections was peripheral and not by stimulation of the adrenals. These authors also claim that equally good results were obtained in stiffness following trauma in which " rheumatism " played no part.

Most observers (especially those with research and clinical experience of the rheumatic diseases) have failed to produce these dramatic results with ascorbic acid and D.O.C.A. or other steroids, although occasional improvement is seen, usually where there has been a strong psychological build-up. A drop in circulating eosinophils and increase in uric acid excretion, which invariably occur with cortisone or A.C.T.H., are not usual with ascorbic acid and D.O.C.A. (Kersley, *et als*). The papers in which brilliant results have been claimed show no control series: and any observer of rheumatic cases knows, not only how naturally variable the disease is, but how psychology influences the condition temporarily in a dramatic way. In any case, where improvement following the use of D.O.C.A. and ascorbic acid is claimed, the relief of pain and stiffness, usually commencing in five minutes to two hours, is not, as a rule,

continued for more than one day; there is no evidence of lasting benefit, and no observer has recorded systemic benefit, gain in weight, drop in sedimentation rate, or improvement of the anaemia. It is felt that, while the use of ascorbic acid and other oxidizing-reducing agents given in conjunction with certain steroids merits investigation, the widespread therapeutic application of D.O.C.A. and ascorbic acid is not at present justified.

SUMMARY

The use of endocrine preparations is not as yet at a stage where it can be considered as routine therapy. Though recent discoveries have given us a better understanding of the rheumatic diseases, opened up new lines of research and brightened the hope for the future, they have in no way altered our older lines of therapy—the general care of the individual patient, physically and mentally, the elimination of the excitant factors and local treatment of the affected joints. There is at the moment no justification for the widespread use of ascorbic acid and D.O.C.A. in clinical practice.

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THE VALUE OF X-RAY THERAPY FOR METASTASES IN BONE FROM CARCINOMA OF THE BREAST*

BY

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It is my object in presenting this short paper to emphasize the value of this method for the treatment of bone metastases, which occur all too frequently as a complication of carcinoma of the breast. A problem of this sort should not be approached in a spirit of competition. Cancer is not the field of the radiotherapist alone any more than it is that of the surgeon, or of any other clinician alone. A patient suffering from cancer should be the subject of careful consultation by all those who can help to palliate or cure the disease.

When a woman, who has had the breast removed for carcinoma, experiences pain in or referred to bone, it is usually the first sounding of the death knell. The *average* survival even in treated cases is little more than a year. The surgeon can do nothing other than try various measures for the destruction of nerves. The physician is powerless except for the use of endocrines, and these preparations are in their infancy. It should be mentioned, however, in passing, that the results of hormone therapy have been remarkable in some cases, and should spur research workers to greater efforts.

At the moment the main responsibility in cases of carcinoma of the breast falls on the general practitioner. Osler in 1906 wrote as follows: " Scarcely enough stress is laid in the works of surgery upon the terminal stages of cancer with the tragic events of which the general practitioner is left to battle alone. . . . The most common and the most serious, as entailing a maximum, are the lesions of the spine. Amid the sad failures of our art these cases stand out in strong relief. An early diagnosis of the condition (bone metastasis) and an early

* An address to the Bristol Medico-Chirurgical Society, on Wednesday, April 12th, 1950.

recognition of the hopelessness may lessen the terrible ordeal of the poor victim, and mitigate not only her suffering, but that of her relatives. Morphine, enough, given freely and without fear, in doses sufficient to keep the patient comfortable, affords the only possible relief."

That view has been held for many years and has adherents even to-day. It is my firm belief, however, that in cases of bone metastases the best relief from suffering can be derived from X-ray therapy. Ewing states in his *Neoplastic Diseases*, " As a palliative method radiation causes complete regression of many local recurrences. Some of the most striking results are seen in the control of bone metastases in which pain is relieved, bone structure restored and life prolonged".

The symptomatology is typical, but it should be remembered that secondaries demonstrable by X-rays may be present for many months, or even years, before giving rise to symptoms. It is economically impossible for X-ray pictures to be taken of every bone each time patients attend for follow-up. In any case a procedure of that sort would not be necessarily desirable from the patients' point of view.

The most frequent first symptom to bring the patient for advice, or which she may mention during her routine follow-up, is pain. Two types of pain are described: (1) Local, originating through pressure on the periosteum; or (2) due to pressure on sensory nerves and involving their distribution.

The symptoms may be described by the patient as neuralgia or rheumatism. At the outset the pain may be mild and transitory, being described as a stab or stitch. There may be hypersensitivity to jarring movements. As the pain becomes more severe it may be agonizing or crippling. Sometimes a pathological fracture is the first indication. In the early stages the patient's general condition is fairly good.

Diagnosis. Symptoms are very suggestive, and in every case where pain is described X-ray pictures should be taken. These show various changes.

1. Seventy-five per cent. are osteolytic in type; the picture is one of bone erosion and loss of normal trabeculation, giving rise to a sharply defined or diffuse area of rarefaction.

2. Osteoblastic, bone density increased.

3. A mixed type.

4. No X-ray evidence at first, but the typical appearances may occur later. Or they may not be seen until the patient comes to autopsy.

From various post-mortem reports and estimates based on clinical findings it can be stated that about one-third of all women who have carcinoma of the breast develop bone metastases. It has also been found that the more virulent the growth the greater the likelihood that metastases will occur. This explains why younger women are more prone to metastatic involvement. It is, therefore, of prime importance that follow-up should be frequent, and that patients should be warned to report if persistent pain is experienced.

Pain without demonstrable X-ray appearances should be regarded as clinical evidence of metastasis if persisting after a month.

X-ray therapy is given for:

1. Relief of pain, bringing with it a feeling of improvement in general health and an increase of the patient's confidence.

2. Prolongation of life.

3. Healing of fractures (this occurs frequently).

4. Relief of paraplegia. This occurs only rarely and usually in early cases.

The most valuable type of radiation therapy is that known as Deep X-ray (usually 220 to 250 kv.). Cases may be divided into those with single or those with multiple metastases.

For single metastases we give either a course lasting two to three weeks to the affected site, or a large single application in cases where the pain is excruciating. For multiple areas wide treatment may be given, e.g. to the whole of the pelvis or treatment given to the painful areas. Adequate treatment will be tolerated because of the patient's good general condition. The degree of radiation sickness is negligible.

Results. X-ray therapy will succeed where opiates are only temporarily successful. The patient and her relatives feel that something useful (and it is useful) is being done. While metastases are confined to the bones the prognosis remains good. Involvement of the lungs and liver usually makes the outlook hopeless. The benefits of treatment may be experienced within two to three days, or may take much longer to become

established. X-ray pictures may show evidence of regression of growth and healing of bone.

X-ray therapy may act as follows:

1. Complete relief.

2. Considerable relief allowing a bedridden patient to get up; a residual ache may remain.

3. Partial relief, i.e. less pain but not sufficient amelioration of symptoms to allow patient to get up.

4. No relief. The failures are usually associated with inadequate treatment.

The number of cases which have been treated at Bristol do not yet lend themselves to statistical analysis. In any case statistics do not always tell the whole story. I am going to quote one case only.

A married woman aged 48 operated upon in 1946 for an advanced carcinoma of left breast with involvement of skin and axillary glands: treated with deep X-rays. Very well until March, 1948, when she developed symptoms of metastases in the pelvic bones. A month later these were demonstrable by X-rays and she was given a course of deep X-ray therapy. Yet a month later her pain had gone, and she was walking better: and in November (i.e. six months later) there was marked sclerosis in the treated area. Recent X-rays now show density in the place of previous osteolytic deposits. She has no symptoms, feels and looks perfectly fit. This patient is a keen gardener, and the fact that prior to her X-ray therapy to the metastases she was unable to do any gardening only added to her misery.

It would obviously be wrong to make claims in one case alone: but this one is not atypical, neither in my experience nor in that of many other radiotherapists. X-ray therapy is not the last word on this subject, but in the light of our present knowledge it is the best we have to offer. It can restore a dispirited and desperately ill woman to full health, giving her hope and courage to carry on her normal life. Even in those patients doomed to die of the disease, it is better to give a few months (or years) of ease and comfort, than to resort immediately to morphinization with all its attendant horrors.

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Editorial Note

To Account rendered

How pleasant to feel that anyone who is sick, be the malady trivial or serious, can obtain the best possible medical care, without any worry about the expense to add to his distress. That the expense to the community has already become stupendous, since this once enviable privilege became the legal right of all, is no matter for surprise. What *is* astonishing is that our "statesmen", our grave leaders, our omniscient planners apparently never even suspected such a result!

Their reaction has been brisk. (*Dare* we couple Mr. Bevan and "reaction"?) "It is necessary to call a halt to further development of these services."* Every Regional Board has had peremptory orders to reduce substantially its estimates for 1950 and to keep strictly within the reduced total. Henceforward the test is not "Is this desirable?" but, "Is this essential and can we afford it?"—much as before the halcyon days of "planning". Even so, we shall this year spend on the treatment of disease well over £10 for every man, woman and child in the kingdom, nearly 8 per cent. of the national income.

Have we a health service so much better than when it cost so very much less? Is it necessary, is it even prudent to divert so large a part of our resources from production to the care of the sick? And even if we could afford it in money and materials (which might be increased), can we spare so many men and women—and are they available? For example: in 1937 we lacked 25,000 nurses; in 1947, 30,000, and now in 1950, 40,000! The few electors who are capable of any real thinking have indeed food for thought.

*Sir Stafford Cripps. House of Commons, March 14th, 1950.

Obituary

RONALD GREY GORDON

M.D., D.Sc. (Edinburgh); F.R.C.P. (Edinburgh)

The sudden death of Dr. R. G. Gordon at Bath on April 26th has deprived us of one of our best-known physicians. Dr. Gordon was educated at Charterhouse and at Edinburgh. After qualifying, he held house appointments there and at the Paddington Green Children's Hospital, and came to Bath shortly before the 1914 war: he served four years in the R.A.M.C., at Salonika and in France. Soon after his return to Bath, he was elected to the Royal Mineral Water Hospital, later the Royal National Hospital for Rheumatic Disease. His main interests were neurology and hydrotherapy, and he was on the staffs of several hospitals—the Bath Royal United, Bath Orthopaedic the Ministry of Pensions Hospital at Bath, and Stoke Park Colony.

He was elected F.R.C.P. (Edinburgh) in 1926 and was Morison Lecturer in 1947: he was a Fellow of the Royal Society of Medicine, Fellow and ex President of the Royal Medical Society of Edinburgh, twice Chairman of the Bath Division, and in 1947, President of the Bath, Bristol and Somerset Branch of the B.M.A. In 1929 he was elected to the Council of the B.M.A. and shortly after this became Chairman of the *Journal* Committee: he took a keen interest in the details of *Journal* production and was largely responsible for the reorganization and new format introduced twelve years ago. In addition to sections of several books on neurology and psychiatry he wrote *The Neurotic Personality* and *Autolycus: the Future for Miscreant Youth.* As though all this were not enough, with a very busy practice, he served on numerous committees for the subjects he had most at heart and was noted for his enthusiasm and practical contributions. A truly great physician.

To his family we tender our sincere sympathies.

Reviews of Books

The Rhesus factor. By G. FULTON ROBERTS, M.B. Second Edition. Pp. vii, 64. London: William Heinemann Medical Books Ltd. 1949. 3s. 6d.—The new edition of this book has been revised and enlarged. It is primarily a book for the general medical public: in it the essential facts are presented lucidly, without fuss and without that dogmatism under which complex subjects are so often made to masquerade as simple. Of the classifications Murray's has been wisely omitted; there is confusion enough between Weiner's and that of Fisher now generally used in this country. Dr. Roberts has not sufficiently stressed the significance of this: on page 36 he states: " It can be seen that Rhesus Positivity is synonymous with D Positivity . . . the term Rhesus positive means that the D antigen is present in the Genotype." This is not true and that Dr. Roberts is aware of it is evident later in the chapter. The confusion arises in attempting to equate the terms, " Rhesus positive and Rhesus negative " with " D positive and D negative ", a procedure not without danger. On pages 6 and 46 *rh* is referred to as a Mendelian recessive. This is surely incorrect. In a later edition it might be wiser for Dr. Roberts to abandon the terms Rhesus positive and Rhesus negative, and confine himself to Fisher's classification. On the whole, however, this is a valuable and well constructed little book.

Diabetes. By JOSEPH H. BARACH, M.D., F.A.C.P. Pp. xviii, 326. Illustrated. New York: Oxford University Press. 1949. 50s.—This new book on *Diabetes and Its Treatment* by Dr. Joseph H. Barach, offers to the general medical man a clinical approach to the understanding of diabetes. The outline of the aetiological factors involved in diabetes is clear and well illustrated and modern ideas concerning the disease are briefly described. Much use is rightly made of the author's extensive experience, though full note has not always been made of the work by other schools. In the statistical tables no attention is given to the possibility that diabetes mellitus may only represent a syndrome and may consist of one or more disease entities. In treatment the author evidently adheres to the " chemical " school, being satisfied with nothing less than the maintenance of a blood glucose level of less than 175 mg. per 100 mil. Insufficient stress is placed on the beneficial effects of a reducing diet in obese diabetics. A feature of the book is a section of detailed diets: there are 126 such diets for men, and 126 for women, forty-one for children, eight luncheon menus, and fifteen emergency diets; these are evidently duplicated in a companion book for patients. Whether such a detailed use of diet in the treatment of

diabetes, especially for those receiving insulin, is either justifiable or useful is an open question. Also, of course, the diets given are not obtainable at the present time in this country. The book will not be of great use to those who are experienced in treating diabetics, but for those who wish to have an outline of modern theories on diabetes it should have some appeal. There is, however, little discussion of the practical points involved in the stabilization of the really difficult cases.

William Withering of Birmingham. By T. WHITMORE PECK, M.P.S., and K DOUGLAS WILKINSON, O.B.E., M.D., F.R.C.P. Pp. 240. Illustrated. Bristol: John Wright and Sons Ltd. 1950. Price 21s.—It was no doubt fortunate that Dr. Withering, in 1775, was a botanist of renown when he was presented with the problem of what was the substance in an old woman's cure for the dropsy, as then in use in Shropshire. His arresting reply was that " it was not very difficult for one conversant with these subjects to perceive that the active herb could be no other than the Foxglove". This was the beginning of all that has gradually led up to the modern pharmacology and uses of this indispensable substance. Withering deserves every credit for his carefully recorded and meticulous clinical observations on the action of digitalis; not least upon the " lady with the weak and intermittent pulse, breath very short and laborious, and her stomach, legs and thighs greatly swollen . . . " who after five draughts of Decoct-Digitalis " made upwards of eight quarts of water in the first twenty-four hours, and was thus snatched from impending destruction ". There is something of the Hippocratic tradition in this. In this beautifully produced book " William Withering of Birmingham ", Peck and Wilkinson have gathered practically all that is known about this distinguished physician and the story of an arduous and somewhat heroic life incidentally records a good deal about the way of life of the consultant in the latter half of the eighteenth century. The book should be of absorbing interest to every doctor and probably many will afterwards be encouraged to turn to and read Withering's original " Account of the Foxglove ".

Diagnosis of Hysteria. By D. W. ABSE, M.D., B.Sc., D.P.M. Pp. xii, 112. Illustrated. Bristol: John Wright and Sons Ltd. 1950. Price 8s. 6d.—This book describes Hysteria from the Freudian angle. The illustrations are well chosen from the author's service cases in Great Britain and India. It is clearly written and covers the subject very widely. But the author does not, himself, make any new contribution to the subject. It is doubtful whether the diagnosis of Hysteria justifies a book in itself. The author's main points, expressed in some thirty pages, would provide a most useful chapter in any textbook on psychoneurosis.

Asthma. By CLEMENT FRANCIS, M.A., M.B., B.CH. Pp. 49. Illustrated. London: Wm. Heinemann Medical Books Ltd. 1950. Price 5s.—The author of this funny little pamphlet proclaims himself " Surgeon i/c

Allergy Clinic"! The work itself is an account of what can be done with the nasal cautery: for example, lasting reduction of systolic pressure from 175 to 135!! As the Iron Duke said, "Sir: If you can believe that . . ."

Operative Surgery. Edited by ALEXANDER MILES, M.D., LL.D., F.R.C.S. and SIR JAMES LEARMONTH, K.C.V.O., C.B.E., CH.M., F.R.C.S. Third Edition. Pp. x, 559. Illustrated. London: Oxford University Press (Geoffrey Cumberlege). 1950. Price 30s.—This is a third edition of the book on operative surgery which replaced the well-known "Thompson and Miles", of long ago. It is by twenty-four contributors, all of whom are or have been connected with Edinburgh. It is addressed to students, house surgeons and presumably registrars, and gives all the information they are likely to find useful in the compass of 550 pages, well turned out and illustrated. We note that the sections on amputations, and on abdominal surgery in general, have been rewritten. The growing custom of getting the abdominal patient up in a day or two is not favoured. The book will be useful to experienced surgeons sometimes, but unusual or recent operations are unevenly dealt with. Many are included, but others (for instance operations on the central nervous system, etc.) are omitted. The author exposes the splenic vessels so that they can be digitally controlled before embarking on a splenectomy: and recommends oesophagogastrostomy for cardiospasm.

The Tuberculous Process. By A. LEITCH, M.B., Ch.B. Pp. viii, 175. Illustrated. Bristol: John Wright & Sons Ltd. 1949. Price 12s. 6d.—This book appears to have little practical value.

Meetings of Societies

BRISTOL MEDICO-CHIRUGICAL SOCIETY

THE Fourth Meeting of the session was held in the University on Wednesday, January 11th, 1950: the President, Dr. H. J. Orr-Ewing, in the Chair. Dr. R. C. Browne, Nuffield Professor of Industrial Health in the University of Durham, gave an address on **"The Work of a Department of Industrial Health"**, (p. 67).

The Fifth Meeting was held on February 8th. Lord Moran gave an address on **"The National Service Army"**, devoted largely to the philosophy of courage and of morale.

The Sixth Meeting was held on March 8th. Dr. G. D. Kersley gave an address on **"American Rheumatology and Recent Advances in connection with Cortisone"**.

The Seventh Meeting was held on April 12th. Mr. Wilfred Adams described the results of **"Nephrectomy for Tumour":** his paper will appear shortly in the *British Journal of Surgery*. Dr. Curwen then gave an address on **"The Value of Radiotherapy in the Treatment of Metastasis in Bone from Carcinoma of the Breast",** (p. 88).

The last meeting of the session was held on May 10th. Dr. D. H. Davies, Mr. A. Miller and Mr. G. L. Alexander opened a discussion on **"The Surgical Treatment of Hypertension".** We hope to publish their remarks in our next issue. The Editor of the *Journal* asked members to indicate whether they were interested in Reviews published in the *Journal* and wished them to be continued. The question had been raised at the March meeting and the financial aspect briefly discussed in April: during three years the average cost of setting type for reviews exceeded the published price of the books reviewed. Although the subject had appeared on the agenda-paper, only eight readers indicated any interest in "Reviews of Books".

The Clinical Society of Bath

October Meeting. Dr. R. H. G. H. Denham, M.O.H. for Bathavon, introduced a discussion on **"General Practice versus Public Health, a commentary on both".** His principal points were the value of some form of supervised introduction of the newly-qualified practitioner into general practice; the importance of his having a full idea of the functions and help which the M.O.H. could give to him; the need in public health work of not employing the most junior M.O. entirely on the routine examination of school-children and of increased liaison between the M.O.H., G.P. and hospital staffs.

November Meeting. Dr. G. Kersley discussed **"Impressions of Rheumatology in America and the advances in Endocrine Therapy,"** (p. 82).

December Meeting. Mr. S. Glaser presented a paper on **"The Surgery of Hypertension".** He defined the grades of hypertension and main causal conditions to stress the need for accurate assessment before deciding that sympathectomy might reasonably yield lasting benefit.

January Meeting. Dr. R. G. Gordon dealt with the many problems of **"Subacute Rheumatism",** stressing particularly the difficulty in classifying so widely spread a condition and the differential diagnoses. He closed with a very neat résumé of the recent views and literature on the subject as a whole.

February Meeting. The following questions were discussed: Is fibrositis a clinical entity? Are chronic inflammatory lesions more common since the advent of penicillin? What is the psychiatric abnormality which causes psychiatrists to be interested in psychiatry? Is agorophobia amenable to treatment? Will the present form of maternity service lead eventually to the abandonment of obstetrics as an integral part of G.P.?

March Meeting. Dr. J. Macquistan: **"Experiences and Changes in twenty-five years of Medical Practice".**

April Meeting. The President, Dr. W. Love, introduced as the Guest of the Society Professor Ian Aird, who gave a talk on **"A British Impression of American Medicine and Medical Schools".**

Cornwall Clinical Society

On Thursday, May 4th, the retiring President, Mr. M. R. Sheridan, gave an address on **"Historical Aspects of Otorhinolaryngology".** Mr. G. P. O'Donnell was installed as President for the ensuing session.

Plymouth Medical Society

This Society, under the presidency of Mr. Edric Wilson, had three exceptionally good lectures during the past season. Mr. V. E. Negus described the protection of the Air Passages and showed his beautiful film of ciliary action of the pharynx of the frog. Professor C. Bruce Perry's lecture on the **"Diagnosis and Treatment of Acute Rheumatism"** was a classic example of what a lecture to a provincial medical society should be. Dr. G. S. Todd, gave us the benefit of his experience with Streptomycin in Pulmonary Tuberculosis.

South-Western Laryngological Association

A meeting was held at The Royal Cornwall Infirmary, Truro, on Saturday, April 1st, Mr. W. H. Bradbeer, President, in the chair. Twelve cases were shown and provoked a keen discussion: for the most part they illustrated results obtained by operation for various conditions. Mr. G. R. Scarff was elected President for the ensuing session. The next meeting will be on Saturday, October 14th at Exeter.

South-West Region Radiological Society

On May 13th, 1950, a meeting was held of the British Institute of Radiology and South-West Region Radiological Society at the Taunton & Somerset Hospital; this was the first occasion on which these societies have met in Taunton. Dr. McAlley, D.M.R.E., described radiological work in cottage and country hospitals. A series of interesting cases was shown including **"Gumma of Stomach"** and a series of Pancoast's tumours.

West Somerset Medical Club

On June 1st, Dr. Orr-Ewing addressed the Club at the Castle Hotel, Taunton, on **"Medicine and the Arabs".** Several very amusing

anecdotes were told and the history of Arab medicine was discussed at great length. The lecture was greatly appreciated by all present.

Wessex Rahere Club

At the annual dinner of the Club, which is open to all old Bart's men resident in the West Country, it was agreed that an additional dinner be held each year away from the main Bath–Bristol area to enable more distant members to attend. A dinner was therefore arranged at the County Hotel, Taunton, on April 29th, and a very satisfactory attendance secured. The Chairman, Professor Brocklehurst, presided and Mr. J. B. Hume journeyed from Bart's to be present as Guest of Honour. In his reply to the toast of " The Hospital ", he outlined the situation at the Hospital, the gradual return of the main departments from their war dispersal areas, the rebuilding and re-organizing which was taking place, staff changes, and the effect of woman graduates on decennial and clubs such as the Wessex Rahere.

British Medical Association

Bath, Bristol and Somerset Branch

A meeting of the Branch was held at the Chamberlain Hall, Locking Road, Weston-s.-Mare, the President, Dr. Percy Phillips, in the Chair. Professor W. F. Gaisford, F.R.C.P., from the Department of Child Health, University of Manchester, gave an address on **" Medicine and Children".**

Wednesday, June 28th. Clinical meeting at Bristol General Hospital.

Bristol Division

Officers: Chairman, Dr. G. E. F. Sutton; Chairman elect, Dr. T. Milling; Secretaries, Drs. H. M. Golding, W. H. Hayes; Treasurer, Dr. C. Dix.

Newport Division

January 24th, 1950. Dr. Charles Hill on **" Current Affairs ".**

February 9th. Clinical meeting at Royal Gwent Hospital. Kartagener's syndrome and kinked carotid (Dr. Dipple); oesophagectomy (Mr. H. Roberts), cases of Smithwick's operation (Mr. V. Jones) and other cases: a film illustrating Rammstedt's operation for pyloric stenosis by Mr. Rice Edwards.

March 23rd. Mr. Alec Bourne on **" The Endocrines in Gynaecology ".**

April 16th. Annual General Meeting: Dr. Bird was elected President and Drs. Bernard Thomas and Trevor Bryant, Joint Secretaries.

Local Medical Notes

Honours

Professor F. Blakemore has received from the University of Liverpool the degree of D.V.Sc. *Honoris Causa.*

The XXXIX Long Fox Memorial Lecture will be given in the University by Sir William G. Savage, M.D., sometime Medical Officer of Health for Somersetshire; title **" Some Food Infection Problems ".**

The next **Carey Coombs Memorial Lecture** will be delivered at 8.30 p.m. on November 14th, 1950, by Dr. Maurice Campbell, *O.B.E.*, D.M., F.R.C.P., Subject: **" Aspects of Congenital Heart Disease ".***

Appointments

Dr. L. B. Thomas.—Associate Professor of Neuro-Physiology and Director of Department of Electro-encephalography, University of Washington, U.S.A.

Dr. A. J. Keevill, M.B.E., M.B.—Regional Assistant Director of Medical Services, Tanganyika.

Mr. J. F. Bourdillon, F.R.C.S.—Consultant Orthopaedic Surgeon, North Gloucestershire clinical area.

Mr. T. Jackson, F.R.F.P.S.—Dental Surgeon, North Gloucestershire clinical area.

Mr. E. H. Rainer, F.R.C.S.—Consultant Surgeon for diseases of Ear, Nose and Throat, Dartford and Sidcup area, S.E. Metropolitan Region.

Dr. W. H. K. Carpenter.—Deputy Medical Superintendent, Stoke Park Colony, Bristol.

Dr. B. P. Griffin,—Deputy Medical Superintendent, Hortham Colony, Bristol.

Dr. R. E. Steiner, M.B., D.M.R.—Radio diagnostician, Hammersmith Hospital, London.

United Bristol Hospitals—

Dr. V. T. Baxter, Dr. J. H. Challenger.—Consultant Anaesthetists.

Mr. H. K. Lucas, *M.B.E.*, M.Ch., F.R.C.S.; Mr. M. P. McCormack, M.B., Ch.B., F.R.C.S.—Consultant Orthopaedic Surgeons.

* By an unfortunate error these two announcements became telescoped into one in our last issue.

Dr. H. M. Golding, Mr. J. R. Nicholson-Lailey and Dr. S. N. Scott have been elected Members of Council of the B.M.A.

Professor R. Milnes Walker has been appointed Vice-President of the Section of Surgery for the Annual Meeting of the B.M.A. in July.

University of Bristol: New Veterinary Buildings

Veterinary education is a new development in the University: the first degree students were admitted in 1949. Many of the classes will be taken in existing departments. But to meet the needs of the veterinary student it was necessary to provide a new building in Bristol for pre-clinical studies, and accommodation at Langford for the purely vocational side of the course.

The new Veterinary School building in Bristol is located in Park Row. It was completed at the beginning of May and is a substantial addition to the buildings on the University site. Special consideration has been given to the needs of anatomy and physiology. On the ground floor there is a large dissecting laboratory, leading from a receiving room, with an accessible cold room large enough to hold intact carcases. There is also an anatomy preparation room and an X-ray unit. All the rooms in which large animals are likely to be dealt with are linked by an overhead runway, to facilitate the movement of carcases. The lecture theatre is conveniently placed and the building contains research laboratories and a museum. The first floor contains a photographic room and laboratories for physiology, biochemistry, histology, and embryology, with adjoining preparation rooms. Although it is not intended that animals should be housed for long periods, there is accommodation at the back of the building for animals both large and small.

Scholarships and Prizes

Scholarships

Lady Haberfield.—D. W. Trump.

Sanders.—W. M. Dutton.

Prizes

Marshall and Clarke.—W. G. Benson.

Russell Cooper.—W. G. Benson.

Carey Coombs—Dr. I. McD. Stewart.

Edward Fawcett.—A. J. Webb.

Henry Clarke.—W. M. Dutton.

Medical Suple.—M. D. Turner.

Surgical Suple.—E. M. W. Houghton.

Barrett Rouè.—S. J. Lloyd.

Mackie.—M. B. Turner.

Phillips.—E. Joseph.

Richard Clarke.—Z. Fluss.

Western Dental.—T. F. Harris.

Attenborough Medal.—T. F. Harris.

Foyle.—A. J. Webb.

Augustin Prichard.—Miss D. Ellis, Miss G. M. Tebbutt (*aequales*).

Degrees and Diplomas

University of Bristol.—

M.B., Ch.B. (*with Second Class Honours*) R. J. Ancill, W. A. W. Dutton,* M. D. Turner.†

M.B., Ch.B.—P. J. D. Benjafield, H. J. Bland, Margaret H. Buston,‡ E. R. Duchesne, F. V. Eastman, D. A. Ellis, C. C. Ewing, Z. Fluss, J. C. Gregg, R. Hill, E. A. W. Houghton, G. A. K. M'C. Jahans, Megan D. M. Johnson, H. I. Leigh,† G. Lucas, Jean M. Menzies, G. W. B. Peel, Barbara M. Philpott,† L. P. Spence, L. A. D. Tovey, Joan Walker.

B.D.S.—D. C. Berry, J. S. Cooper.

L.D.S.—A. H. Chivers, E. K. Joseph, J. J. Tittle.

D.P.H.—A. J. Board, E. L. Fawssett.

D.P.M.—M. W. Annear, J. A. Bickford, R. M. Ellison.

M.B., Ch.B.—*Second Examination:* Prudence M. Beckingham, Isabel K. E. Brister, Margaret E. Chesterfield, K. G. Collins, M. L. Cox, J. H. L. Griffin, M. J. Page, M. J. Ree, E. C. Skeens, Catherine M. Stephen.

Royal College of Physicians.—F.R.C.P.—Dr. A. M. G. Campbell.

Royal Colleges of Physicians and Surgeons (Conjoint Board).—M.R.C.S., L.R.C.P.: E. R. Duchesne.

Royal College of Physicians, Edinburgh.—M.R.C.P.: D. J. A. C. Wilson.

* Distinction in Obstetrics. † Distinction in Public Health. ‡ Distinction in Child Health.